

February 1, 2000

Docket No. 50-309

License No. DPR-36

Michael Meisner
President
Maine Yankee Atomic Power Company
321 Old Ferry Road
Wiscasset, ME 04578-4922

SUBJECT: INSPECTION NO. 50-309/99-03

Dear Mr. Meisner:

On January 7, 2000, the NRC completed an inspection at your Maine Yankee reactor facility of activities authorized by the above listed NRC license. The findings of the inspection were discussed with Messrs. George Zinke, William Odell, and John McCann during a phone call on January 24, 2000. The enclosed report presents the results of this inspection.

Your operations, maintenance, engineering and radiological protection programs were inspected during this three and one half month inspection period. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors. The inspection also incorporates the June 8, 1999 review of the security program. Your conduct of activities at the Maine Yankee facilities was generally characterized by safety conscious operations and careful radiological work controls. The programs were considered to be appropriately implemented.

In accordance with Section 2.790 of the NRC's "Rules and Practices," Part 2, Title 10, Code of Federal Regulations, a copy of this letter will be placed in the Public Document Room. No reply to this letter is required.

Your cooperation with us is appreciated.

Sincerely,

Original Signed by:
Francis M. Costello for

Ronald R. Bellamy, Chief
Decommissioning and Laboratory Branch
Division of Nuclear Materials Safety

Enclosure:
Inspection Report No. 50-309/99-03

cc w/encl:

W. Henries, Manager - Engineering
J. M. Block, Attorney at Law
P. L. Anderson, Project Manager (Yankee Atomic Electric Company)
E. Howes, Manager of Public and Governmental Affairs
T. Dignan, Attorney (Ropes and Gray)
G. Zinke, Director, Regulatory Affairs
W. Odell, Director, Operations
M. Ferri, Vice President, Decommissioning
M. Lynch, Esquire, MYAPC
P. Dostie, State Nuclear Safety Inspector
P. Brann, Assistant Attorney General
U. Vanags, State Nuclear Safety Advisor
C. Brinkman, Combustion Engineering, Inc.
W. D. Meinert, Nuclear Engineer
First Selectmen of Wiscasset
M. Kilkelly, State Senator, Chair - Community Advisory Panel
Maine State Planning Officer - Nuclear Safety Advisor
State of Maine, SLO Designee
State Planning Officer - Executive Department
Friends of the Coast
L. Elisa, Regional Director - FEMA Region I
L. Canton, Regional Director - FEMA Region II
R. Calvin, Regional Director - FEMA Region III

Michael Meisner

3

Distribution w/encl:

Region I Docket Room (with concurrences)

Nuclear Safety Information Center (NSIC)

PUBLIC

H. Miller, RA/J. Wiggins, DRA

R. Bangart, OSP

DNMS Director, Region 1

DNMS Deputy Director, Region 1

R. Bellamy, DNMS

M. Roberts, DNMS

T. Jackson, DNMS

R. Ragland, DNMS

D. Vito, ORA

Distribution w/encl (VIA E-MAIL):

K. Kennedy, OEDO

M. Webb, NRR

S. Richards, NRR

L. Camper, NMSS

L. Pittiglio, NMSS

T. Madden, OCA

D. Screnci, PAO

N. Sheehan, PAO

Inspection Program Branch, NRR (IPAS)

DOCDESK

DOCUMENT NAME: C:\~reports\my9903.wpd

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI : DNMS		RI : DNMS		RI : DNMS		RI : DNMS			
NAME	Ragland MCR f/		Roberts MCR /s/		Bellamy FMC f/		Pangburn FMC f/			
DATE	01/24/00		01/24/00		01/28/00		01/28/00			

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	50-309/99-03
Docket No.	50-309
License No.	DPR-36
Licensee:	Maine Yankee Atomic Power Company
Location:	321 Old Ferry Road Wiscasset, ME 04578-4922
Inspection Dates:	September 18, 1999 through January 7, 2000
Inspectors:	Todd J. Jackson, CHP, Health Physicist Randolph C. Ragland, Jr. CHP, Health Physicist Mark C. Roberts, CHP, Senior Health Physicist Robert B. Manili , Reactor Security Specialist, NRR Robert Skelton, Reactor Security Specialist, NRR Dale T. Nebuda, P.E., U.S. Army Corps of Engineers (USACOE)
Approved By:	Ronald R. Bellamy, Chief Decommissioning and Laboratory Branch, DNMS

EXECUTIVE SUMMARY

Maine Yankee Atomic Power Company NRC Inspection Report No. 50-309/99-03

This integrated inspection included aspects of licensee operations, maintenance, engineering, and plant support. The report covers a three and one-half month period of announced inspections by three regional inspectors, two headquarters inspectors, and one contractor. One minor violation was identified.

Operations

The operability of the spent fuel pool diesel generator was successfully verified during a quarterly surveillance (DG-SFP-1 Surveillance). However, during performance of the surveillance, electrical loads in excess of procedural specifications were added to the diesel generator resulting in a diesel generator trip. This issue was recorded in the licensee's corrective action program as CR 99-277. (Section O1.1)

Maine Yankee and the DOC performed a thorough evaluation of the August 12, 1999, electrical shock event, and implemented comprehensive corrective and preventative actions. Based on this review, IFI 99-02-01 is closed. (Section O8.1)

Maintenance

Licensee personnel appropriately prepared the facility for cold weather. Operations staff and management were knowledgeable of plant systems and components susceptible to cold weather and identified conditions (e.g., use of a water shield in the LSA building) that could be affected by cold weather. The licensee performed appropriate corrective actions for three Condition Reports where cold weather issues were previously identified. Licensee staff prepared the Decay Heat Removal system of the spent fuel pool for cold weather operations. No concerns were identified. (Section M2.1)

Engineering

The licensee made adequate preparations and took appropriate actions to address year 2000 computer readiness. Y2K vulnerability evaluations showed that important safety systems would not be adversely affected by the rollover to the year 2000. In the event of a problem, adequate contingency plans were in place to ensure sufficient cooling, shielding, monitoring and security of spent nuclear fuel. (Section E2.1)

Plant Support

High radiation area access and radiation exposure controls were effectively implemented as evidenced by use of postings, barricades, frequent surveys, remote monitoring, radiation work permits, and knowledgeable health physics technicians. (Section R1.1)

Maine Yankee established, maintained, and implemented adequate programs and procedures to ensure proper classification of radioactive wastes. Appropriate measures were being taken to ensure that fuel and fuel components were not improperly released and disposed as low-level waste. (Section R1.2)

Construction on an extension to the onsite 345 kV switchyard commenced prior to approval of final site survey methodology and completion of a final site survey in the area. The licensee acknowledged the potential for completing additional sampling of the 345 kV switchyard extension as part of the final site radiation survey. This area will be included in future surveys. (Section R1.3)

The inspector identified that the licensee failed to implement a corrective action (CA) as stated in the CA program. Upon identification, the licensee responded appropriately to implement the CA and address the reasons for the failure to implement CAs. The inspectors opened an inspection follow-up item to review the CAs for CR 99-213 during a future inspection. (Section R7.1)

Emergency preparedness drills were well controlled and implemented, provided the staff with effective and useful training opportunities, and demonstrated that the plant staff could respond to emergency situations in a timely and controlled manner. Control room personnel demonstrated good command and control, and drill participants acted decisively and appeared well trained. Based on these observations, IFI 98-04-02 is closed. (Section P1.1)

The USACOE, under contract to the NRC, determined through the review of site drawings and physical inspection of the SFP that the Maine Yankee Power Plant could withstand the design basis vehicle threat. Changes made to the plan by Maine Yankee in accordance with the regulations in 10 CFR 50.54 (p) did not decrease the safeguards effectiveness of the plan. (Section S1.1)

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ii
TABLE OF CONTENTS	iv
REPORT DETAILS	1
<u>I. Operations</u>	1
O1 Conduct of Operations	1
O1.1 <u>Spent Fuel Pool Diesel Generator Surveillance</u>	1
O8 Miscellaneous Operations Issues	2
O8.1 <u>Inadvertent Electrical Shock of Worker</u>	2
<u>II. Maintenance</u>	3
M2 Maintenance of Material Condition of Facilities and Equipment	3
<u>III. Engineering</u>	4
E2 Engineering Support of Facilities and Equipment	4
<u>IV. Plant Support</u>	6
R1 Radiation Protection & Chemistry (RP&C) Controls	6
R1.1 <u>High Radiation Area Controls</u>	6
R1.2 <u>Classification of Radioactive Waste</u>	6
R1.3 <u>Contamination Surveys in the 345 kV Switchyard</u>	8
R7 Quality Assurance (QA) in RP&C Activities	8
R7.1 <u>Failure to Implement Corrective Action</u>	8
P1 Conduct of Emergency Preparedness Activities	9
P1.1 <u>Emergency Preparedness Drills</u>	9
<u>V. Management Meetings</u>	11
X1 Community Advisory Panel (CAP)	11
X2 Exit Meeting	11
PARTIAL LIST OF PERSONS CONTACTED	12
INSPECTION PROCEDURES USED	13

ITEMS OPENED, CLOSED, AND DISCUSSED	13
LIST OF ACRONYMS USED	13

REPORT DETAILS

I. Operations

O1 Conduct of Operations

O1.1 Spent Fuel Pool Diesel Generator Surveillance

a. Inspection Scope (IP 62801)

A review was performed of a surveillance to verify the operability of the spent fuel pool island (SFPI) diesel generator (DG) and the removal of the SFP buses from service for maintenance. Information was gathered by reviewing the implementation of procedure No. 3-1-23.1, "DG-SFP-1 Surveillance" and procedure No. 1-22-5.1, "Removal of BOP and SFP Buses and X-16 From Service for Maintenance;" by direct observations of work in the control room and at the DG; and through discussions with cognizant personnel.

b. Observations and Findings

Diesel generator DG-SFP1 serves as an alternate power source for important SFPI equipment in the event of loss of normal offsite power. Procedure 3-1-23.1, "DG-SFP-1 Surveillance," is used to verify the operability of the SFPI DG.

On December 14, 1999, during performance of the quarterly surveillance, DG-SFP-1 tripped offline. In response to the diesel trip, operators terminated the surveillance and restored power to the SFP bus from the normal offsite power source. Operations staff initiated condition report (CR) 99-277 and determined that the diesel tripped because it was loaded in excess of its capability. Procedure 3-1-23.1, DG-SFP-1 Surveillance, step 5.2.26, states that "At Shift Managers discretion continue to energize loads up to a maximum of 225 KW utilizing the Electrical Distribution Book and the PLC KW indication." Contrary to this procedural guidance, electrical loads in excess of procedural specifications, approximately 357 KW, were added to DG-SFP-1. Actions taken to prevent recurrence included meetings with the operations staff to reinforce the need to maintain strict procedural compliance. On December 16, 1999, the surveillance was successfully repeated, the operability of the DG was verified, and all electrical loads were transferred without incident. Because the use and operability of the DG is not considered in the safety analysis of the spent fuel pool, this issue has minor safety significance and is considered a minor violation not subject to formal enforcement action.

During performance of surveillance on DG-SFP-1, power was temporarily removed from the spent fuel pool bus (BUS-SFP). This action also removed power from Station Line Carrier (SLC) 96 and the fiber optic multiplexer, which powers the NRC Emergency Notification System (ENS). When the power supply for SLC-96 is out of service, ENS phones are powered by an 8-hour un-interruptible power supply (UPS). During the DG-SFP-1 Surveillance performed on December 14, 1999, the SLC-96 UPS failed after 1.5 hours resulting in loss of the ENS for more than a one-hour period. In accordance with Maine Yankee procedure No. 1-26-1, "Operations Event Reports," a one-hour

notification to the NRC was made because ENS capability was lost for more than one hour. Power to the ENS was restored when the DG surveillance was terminated and offsite power to BUS-SFP was restored. During the loss of ENS capabilities, back-up communications were available including cellular phones and State Police radios. No violations of NRC requirements were identified during the temporary loss of ENS capabilities. Maine Yankee initiated CR 99-278 to review the failure of the battery on the ENS UPS and found that the battery used by the communications supplier was not ideal for the application. The battery system has been replaced.

c. Conclusions

The operability of the SFP DG was successfully verified during a quarterly surveillance (DG-SFP-1 Surveillance). However, during performance of the surveillance, electrical loads in excess of procedural specifications were added to the diesel generator, resulting in a diesel generator trip. This issue was recorded in the licensee's corrective action program as CR 99-277.

O8 Miscellaneous Operations Issues

O8.1 Inadvertent Electrical Shock of Worker

a. Inspection Scope (IP 93001)

The inspector reviewed the licensee's response to the August 12, 1999, electrical shock event. The inspector gathered information by a review of CR 99-166, "Personnel Exposure to Electrical Shock," and through interviews with cognizant personnel.

b. Observations and Findings

CR No. 99-166 provided a thorough evaluation of the August 12, 1999, electrical shock event. The licensee acknowledged that although actual injuries sustained were minor, the incident had the potential to be much more severe. The apparent cause of the incident was the inadvertent re-energizing of an abandoned, undocumented (sneak) circuit along with the re-powered welding receptacles in the cold machine shop. Immediate actions taken by Stone & Webster as the Decommissioning Operations Contractor (DOC) were to isolate and remove the circuit, initiate an incident investigation, and institute a project stand-down of all work in the protected area of the plant until such time as a complete investigation and review of all re-energized systems could be performed. Long term corrective and preventive actions included revisions of procedures to require a complete physical inspection prior to re-energizing a previously abandoned system, and the conduct of multiple training sessions to discuss lessons learned and reinforce expectations for performance.

c. Conclusions

Maine Yankee and the DOC performed a thorough evaluation of the August 12, 1999, electrical shock event, and implemented comprehensive corrective and preventative actions. Based on this review, IFI 99-02-01 is closed.

II. Maintenance

M2 Maintenance of Material Condition of Facilities and Equipment

M2.1 Cold Weather Preparations

a. Inspection Scope (IP 71714)

The inspector reviewed cold weather preparations and corrective actions to previous CRs relating to cold weather issues.

b. Observations and Findings

The licensee initiated cold weather preparations in late September 1999, following revision of Procedure 1-107-3, "Heating and Ventilation". This procedure is the primary implementing procedure for the Technical Specification (TS) procedural requirement for cold weather preparations. Operations management and staff conducted a walk-down of the plant in order to aid in identifying cold weather preparation issues. Based on the plant walk-down and inherent knowledge of plant systems, the Manager, Operations and Maintenance generated a list of over thirty issues/concerns to be addressed. When these issues were examined during the week of October 18, 1999, approximately two-thirds of the items had been completed and the remaining items were either in process or under evaluation. These items were subsequently completed over the next few weeks. The Manager issued a memorandum to inform the staff that cold weather preparations were in progress and to be sensitive to cold weather issues.

One primary issue, the confirmation of the 40% glycol mixture in the decay heat removal (DHR) system, was awaiting a sampling and analysis procedure. The inspector subsequently confirmed that this procedure was completed and a sample analyzed for glycol content on October 21, 1999. The sample result indicated that the glycol concentration in the DHR system was less than 40%. A glycol concentration of at least 40% is required by procedure. The licensee then removed coolant (water and glycol mixture) from the system and added sufficient glycol to reach the 40% concentration on October 28, 1999. Retesting for glycol concentration on November 1, 1999 confirmed a sufficient glycol concentration. These actions were all completed prior to the DHR system was challenged by extremely cold weather. The licensee also confirmed that the replacement DG had suitable cold weather operability features.

The inspector reviewed the closure of three CRs (CR-99-001, CR-99-010, CR-99-027) relating to cold weather preparations. Condition Report-99-001, "Frozen Primary Water Storage Tank (PWST) Line" was addressed by addition of heaters and insulation to an

exterior section of the line running from the PWST into the plant. CR 99-027, "FS-88 Valve Damaged by Ice," was addressed by replacing the damaged portion of the line. CR 99-010, "Hazardous Floor Conditions in the PAB," was handled by sealing building openings and placing non-skid mats in the corridor.

The inspector accompanied an operator on routine operator rounds. Operator rounds are conducted three times a day to review plant conditions and document specific plant parameters in the daily operator log (Procedure 3.1.1, Operator Logs). The operator pointed out specific checks that are performed to ensure adequate cold weather protection is maintained on susceptible systems. Various temperature and flow readings were recorded in the operator log.

c. Conclusions

Licensee personnel appropriately prepared the facility for cold weather. Operations staff and management were knowledgeable of plant systems and components susceptible to cold weather and identified conditions (e.g., use of a water shield in the LSA building) that could be affected by cold weather. The licensee performed appropriate corrective actions for three CRs where cold weather issues were previously identified. Licensee staff prepared the DHR system of the SFP for cold weather operations. No concerns were identified.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Year 2000 Computer Readiness Review

a. Inspection Scope (TI 2561/003)

A review was performed of licensee preparations, evaluations, and plans for year 2000 computer readiness using NRC Temporary Instruction 2561/003, "Re-Examination for Year 2000 (Y2K) Program Activities at Selected Decommissioning Reactors." Information was gathered by a review of a Maine Yankee Y2K Management and Implementation Plan, by reviews of documents including procedural guidance and records of Y2K reviews, and through discussions with personnel assigned to a Y2K computer readiness team.

b. Observations and Findings

The information technology (IT) group had been assigned responsibility for preparations and oversight of Y2K computer readiness. A Y2K Management and Implementation Plan had been established that provided guidelines for addressing potential computer problems associated with the year 2000 rollover. The plan included a general approach, project objectives, resources, and project oversight. Guidance presented in an industry group document, NEI/NUSMG 97-07, "Nuclear Utility Year 2000 Readiness", was used to classify Y2K items. Since no components fell into the "safety related," "important to safety," "required by regulation," or "required by license commitment" categories, items

were initially placed into categories of "will remediate" or "will-not remediate." Many items that were identified as retired or no longer planned to be used were dropped from the review. Emphasis was placed on the safe storage of spent fuel, impact on financial viability of the corporation, administration of the decommissioning trust fund, and impact on ongoing decommissioning activities.

A database was established in the form of multiple matrices that listed hardware, software, versions, vendor websites with information concerning the product, Y2K status, ramifications, and completion status. Y2K evaluations for widely held components were performed primarily through Internet reviews of vendor data and industry comments. Customized software was considered to be the most vulnerable area and some software patching and confirmatory testing were performed. No Y2K or "leap-year" issues were discovered in any testing. Computer programs for fuel pool cooling system and security had been newly installed and were determined to be Y2K compliant.

Contingency plans for significant external or internal risks such as loss of offsite power, loss of offsite communications, or loss of SFP cooling were included in existing detailed procedures. Examples included procedure No. AOP 2-46.1, "Loss of Offsite Power," procedure No. 1-300-6.1, "Operational Communication Hardware," and procedure No. AOP 2-52, "Loss of Spent Fuel Pool Cooling and/or Level." Examples of mitigative actions included obtaining alternate power from a DG and providing make-up water to the SFP from various sources. Contingency plans also included increased staffing on December 31, 1999.

A quality assurance review was also provided in late November 1999 by the station's quality assurance group. The findings indicated that although procedural guidance and documentation of testing and remediation were not detailed, adequate preparations and contingency plans had been made.

c. Conclusions

The licensee made adequate preparations and took appropriate actions to address year 2000 computer readiness. Y2K vulnerability evaluations showed that important safety systems would not be adversely affected by the rollover to the year 2000. In the event of a problem, adequate contingency plans were in place to ensure sufficient cooling, shielding, monitoring and security of spent nuclear fuel.

IV. Plant Support

R1 Radiation Protection & Chemistry (RP&C) Controls

R1.1 High Radiation Area Controls

a. Inspection Scope (IP 83750)

A review was performed of licensee practices for posting and controlling access to high radiation areas (HRAs). Information was gathered by reviewing radiation work permits (RWPs) and key control practices, conducting tours of the plant to evaluate radiological postings, observing work in progress, and through discussions with cognizant personnel.

b. Observation and Findings

All HRAs examined were clearly posted and all doors to HRAs were securely locked when required. RWPs were appropriately used to control access to HRAs and knowledgeable health physics personnel provided thorough briefings for HRA access. During cut-out and removal of large piping and a loop isolation valve (LIV) in steam generator loop No. 3, health physics technicians controlled exposure to personnel with frequent surveys, remote monitoring with video cameras, and with posting and barricades on newly cut piping.

c. Conclusion

HRA access and radiation exposure controls were effectively implemented as evidenced by use of postings, barricades, frequent surveys, remote monitoring, RWPs, and knowledgeable health physics technicians.

R1.2 Classification of Radioactive Waste

a. Inspection Scope (IP 86750, IP 60801)

A review was performed of licensee practices for the classification of radioactive waste for near surface disposal in accordance with 10 CFR 61.55, "Waste Classification," and to determine what steps were being taken by the licensee to ensure that spent fuel would not be improperly released and disposed as low-level waste. The inspector reviewed procedural guidance, waste classifications and shipping documentation for a fuel pool cooling filter and a reactor coolant pump, and waste characterization efforts for a fuel pool cleanup project. The inspector also interviewed cognizant personnel involved in waste classification and shipping.

b. Observations and Findings

The licensee established, maintained, and implemented approved procedures for sampling, analyzing, classifying, processing, and packaging radioactive waste in

accordance with 10CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste" and NRC Branch Technical Positions on Waste Classifications.

Radioactive waste classification methods employed were typical of the practices used by nuclear power facilities. Periodic representative sampling was performed for various plant waste streams. Representative samples were analyzed for radioisotopic content. The concentration of radioisotopes that cannot be readily measured (e.g., alpha emitters such as transuranics) were related to or scaled to the concentration of radioisotopes that can be readily measured (e.g., gamma emitters such as cobalt-60). Once the distribution of radionuclides was established, radionuclide concentrations were determined based on the volume or weight of the final waste form. The licensee used a commercially available computer program to relate gross activity measurements to radionuclide concentrations.

The Spent Fuel Pool Project Manager stated that reviews had been performed to evaluate the potential for the presence of spent fuel (e.g., fuel pellets) in non-fuel wastes in the SFP. An action plan had been established that outlined the "Methodology That Ensures No Special Nuclear Material or Greater Than Class C Waste Will Be Shipped as Low Level Waste." The Spent Fuel Pool Project Manager conducted interviews with cognizant personnel and viewed available videos of the spent fuel and photographs of fuel damage (selected photographs were reviewed by the inspector). The videos and photographs showed that although some rods were damaged, it did not appear that fuel pellets were released from the fuel. The Project Manager reported that several fuel rods were known to have been broken and were stored in the SFP cask pit. He indicated that to the best of his knowledge, the fuel rods had broken during handling in the SFP. The Spent Fuel Pool Project Manager also stated that during past SFP re-rack projects and cleanup efforts, no loose fuel pellets had ever been identified. However, because several rods were known to be broken, the licensee took steps to determine if fuel pellets were present in non-fuel wastes. The licensee contracted with various industry experts to review the plan and characterize the non-fuel wastes in the fuel pool. Non-fuel wastes in the SFP were inventoried and initially characterized by direct underwater gamma spectroscopy. Baseline radionuclide signatures were established for known fuel, and all non-fuel scans were compared to known fuel scans. If spent fuel was present, Cs-137 would represent a substantial constituent of the nuclide mix. The licensee documented the results of its investigations and measurements in a report entitled "Maine Yankee Spent Fuel Pool Non-Fuel Gamma Spectroscopy Characterization" dated November 22, 1999. In this report, the licensee indicated that out of 48 non-fuel items scanned, one trash basket (BT-16), which records showed contained five filters, a pipe, and a rope, had an elevated Cs-137/Co-60 ratio and indicated the potential for the presence of spent nuclear fuel. The Project Manager stated that based on those results, trash basket BT-16 would be treated as containing spent fuel and would not be shipped as low-level waste. Further licensee investigations on this basket are to be performed.

c. Conclusions

Maine Yankee had established, maintained, and implemented adequate programs and procedures to ensure proper classification of radioactive wastes. Appropriate measures

were being taken to ensure that fuel and fuel components were not improperly released and disposed as low-level waste.

R1.3 Contamination Surveys in the 345 kV Switchyard

a. Inspection Scope (IP 71801)

The inspector observed construction work to extend the 345 kV switchyard onsite. The inspector reviewed the preliminary area radiation survey data for the construction area and observed the excavation work for site preparation.

b. Observations and Findings

Maine Yankee is constructing an extension to the 345 kV switchyard and desires to complete the extension prior to final decommissioning of the facility. Because Maine Yankee had not submitted a final License Termination Plan, (which would include final radiation survey plans) work commenced prior to a final radiation survey was planned or conducted in the area.

The inspector noted that although the licensee collected and analyzed soil samples from this area, they could not make valid direct radiation measurements in the area because radioactive materials in a nearby building affected these measurements. Although this area has a relatively low potential for radioactive contamination from site operations, samples may have to be taken of the soil beneath the newly constructed switchyard at some time in the future as part of the final radiation survey. The inspector pointed out to the licensee that they should provide adequate lead time in project planning to enable licensee personnel to complete a final survey of a construction area onsite, including providing NRC the opportunity to perform an independent survey. The licensee agreed that such an approach is preferable.

c. Conclusions

Construction on an extension to the onsite 345 kV switchyard commenced prior to approval of final site survey methodology and completion of a final site survey in the area. The licensee acknowledged the potential for completing additional sampling of the 345 kV switchyard extension as part of the final site radiation survey. This area will be included in future surveys.

R7 **Quality Assurance (QA) in RP&C Activities**

R7.1 Failure to Implement Corrective Action

a. Inspection Scope (IP 40801)

The inspector reviewed selected condition reports (CRs) and the licensee's procedure change process.

b. Observations and Findings

CR 99-182 identified a procedure error which directed that radiation survey measurements use a minimum 15 second count time instead of the vendor-recommended 22 second count time. The closure of CR 99-182 listed corrective actions (CAs) including the revision of procedure No. 6.0.12, "Radiological Survey Techniques" to correct this technical error. The inspector reviewed a copy of procedure 6.0.12, "Radiological Survey Techniques," and noted that paragraph 6.3.7.a.(4) stated, "Hold probe stationary for a minimum of 15 seconds over areas that have increased count rates." The immediate corrective action stated in the CR had not been performed as of September 21, 1999 when the inspector examined the procedure. The licensee investigated the CR process to determine why the CA had not been performed and concluded that although the procedure had been marked-up for revision, the completion of the administrative process to issue the revised procedure had not occurred, thereby making the statement incorrect. Another CR, CR 99-213, was generated to assure that the causes for the stated corrective action not being completed are resolved. The licensee also sampled a number of closed CRs to determine if there were others that had been closed before the CAs were actually completed. Results were to be documented in the closure for CR 99-213.

Confidence in both the CA program and in the procedure system is dependent upon information being correct and complete. In the case of CR 99-182, the information in the CR closed was not correct, and the affected procedure was not corrected. The system is also affected by the thoroughness and rigor of critical reviews, such as performed by the Corrective Action Review Board following the daily morning meeting. The licensee indicated that the resolution of CR 99-213 would be intended to assure continued effectiveness of the CR program and eliminate potential ambiguities in the tracking of status of corrective actions committed to in CR documentation. An inspector follow-up item was opened to evaluate the licensee's evaluation and resolution of CR 99-213. (IFI 99-03-01)

c. Conclusion

The inspector identified that the licensee failed to implement a CA as stated in the CA program. Upon identification, the licensee responded appropriately to implement the CA and address the reasons for the failure to implement CAs. The inspectors opened an inspection follow-up item to review the CAs for CR 99-213 during a future inspection.

P1 Conduct of Emergency Preparedness Activities

P1.1 Emergency Preparedness Drills

a. Inspection Scope (IP 82301)

Inspectors reviewed an emergency preparedness (EP) drill conducted on September 22, 1999, and a medical drill conducted on December 14, 1999. Information was gathered by direct observations made in the control room and simulated accident sites; by review of the medical drill scenario and time-line; by review of procedure 2-50-8, "Medical

Emergency Response”; by attendance at a post drill critique; and through interviews with cognizant personnel.

b. Observations and Findings

During the September 22, 1999 drill, the Shift Manager demonstrated good command and control, made appropriate communications, and responded to exercise events in a timely manner. Drill participants acted decisively and appeared well trained.

During the December 14, 1999 medical drill, communications from the field health physics technician (drill participant), who discovered the “simulated injured person,” to the control room were thorough and clear. The Shift Manager made appropriate notifications to security, the station nurse, and an offsite ambulance. A medical drill “Scenario and Time-line” was available and effectively used to control and evaluate drill performance. The document established major drill conditions and events and clearly specified expected actions. First-aid responders acted professionally and in the best interest of the “injured person.” Finally, a post-exercise critique was conducted for individuals that participated in the onsite portion of the December 14, 1999 medical drill.

c. Conclusions

EP drills were well controlled and implemented, provided the staff with effective and useful training opportunities, and demonstrated that the plant staff could respond to emergency situations in a timely and controlled manner. Control room personnel demonstrated good command and control and drill participants acted decisively and appeared well trained. Based on these observations, IFI 98-04-02 is closed.

S2 Status of Security Facilities and Equipment

S2.1 Spent Fuel Pool Safety

a. Inspection Scope (IP 81700)

Inspectors performed a review of the security program on June 8, 1999, to determine whether the conduct of security and safeguards activities met NRC regulatory requirements and licensee commitments in the NRC-approved security plan (the Plan). The inspectors evaluated the ability of the SFP to withstand an assault by a design basis malevolent vehicle (10 CFR 73.1 (a)(1)) following moving the originally installed vehicle barrier system.

This inspection also considers a specific review of the January 9, 1998, report entitled “Vulnerability Analysis of a Proposed Security Plan for the Maine Yankee Power Plant” prepared for the licensee by Sandia National Laboratories. This report was part of the basis for the licensee’s decision regarding moving the existing vehicle barrier. This vehicle barrier system was one of the protective measures for the SFP.

b. Observations and Findings

NRC personnel, accompanied by an explosive blast expert from the US Army Corps of Engineers (USACOE), who had previously reviewed the Sandia document, visited the site to review additional engineering drawings, interview engineering staff, and view the physical layout of the SFP and adjacent areas.

Based on review of the Sandia Report, the USACOE expert concluded that, by itself, the Sandia Report did not support the licensee's conclusion to move the previously installed vehicle barrier system and to change their security plan through the use of 10 CFR 50.54 (p). However, the USACOE expert concluded, based on the onsite review of the physical layout and construction of the SFP, that due to the pool's construction, its interior location, and the presence of existing equipment, it would be difficult to position a vehicle in close proximity to the pool. He further concluded from this review that the SFP would withstand the design basis vehicle threat and the changes to the plan do not decrease the safeguards effectiveness of the plan.

c. Conclusions

The USACOE, under contract to the NRC, determined through the review of site drawings and physical inspection of the SFP that the Maine Yankee Power Plant could withstand the design basis vehicle threat. Changes made to the plan by Maine Yankee in accordance with the regulations in 10 CFR 50.54 (p) did not decrease the safeguards effectiveness of the plan.

V. Management Meetings

X1 Community Advisory Panel (CAP)

NRC staff attended a meeting of the Maine Yankee CAP on October 21, 1999. The meeting was also attended by a representative from EPA Region I. Both the EPA representative and NRC staff made presentations to the CAP. The NRC staff presentation was a quarterly update of NRC inspection and licensing activities since the last update to the CAP.

X2 Exit Meeting

The inspectors presented the inspection results to representatives of the licensee at the end of each onsite inspection, and summarized the inspection period findings in a telephone conference on January 24, 2000. Licensee representatives acknowledged the findings presented.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Meisner, President
M. Ferri, Vice President-Decommissioning
W. Odell, Plant Manger
W. Henries, Director, Engineering
S. Dahlgren, Manager, Decommissioning
T. Williamson, Quality Assurance Manager
W. Ball, Manager, Operations
J. Mallon, Radiation Protection Manager
J. Niles, Assistant Manager, Operations
G. Zinke, Director-Regulatory Affairs
J. McCann, Licensing
S. Evans, Manager Environmental Health and Safety/Emergency Preparedness
S. Gray, Site/Construction Manager, Stone & Webster (S&W)
W. Lach, Chemistry
D. Hahn, Chemistry
E. Brand, Licensing
M. Whitney, Licensing
T. Shippee, QPD
P. Plante, Engineering
J. Hebert, Licensing Supervisor - S&W
R. Cole, Director, Waste Management/Radiation Protection, S&W
D. Hickey, Radiation Protection Manager, S&W
M. Readinger, Manager, Radwaste
M. Mattox, Engineering
C. Young, Radwaste Shipping Coordinator
G. Collins, ALARA engineer, MY contractor
R. Gann, RP Supervisor, RSI

Other

P. Dostie, Maine Nuclear Safety Inspector
D. Randall, Maine Nuclear Safety Inspector

INSPECTION PROCEDURES USED

IP 2561/003	Re-Examination for Year 2000 (Y2K) Program Activities at Selected Decommissioning Reactors
IP 40801:	Self-Assessment, Auditing and Corrective Actions
IP 60801:	Spent Fuel Pool Safety at Permanently Shutdown Reactors
IP 62801:	Maintenance and Surveillance
IP 71714	Cold Weather Preparations
IP 81700	Physical Security Program
IP 71801	Decommissioning Performance and Status Reviews
IP 82301:	Evaluation of Exercises for Power Reactors
IP 83750:	Occupational Radiation Exposure
IP 86750:	Solid Radwaste Management and Transportation
IP 93001:	OSHA Interface Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Items Opened:

IFI 99-03-01	Resolution of Corrective Actions
--------------	----------------------------------

Items Closed:

IFI 98-04-02	Emergency Preparedness Procedural Guidance, Training and Staffing
IFI 99-02-01	Circumstances Involving an Inadvertent Electrical Shock to a Contract Worker

Items Discussed:

None

LIST OF ACRONYMS USED

BOP	Balance of Plant
CA	Corrective Action
CAP	Community Advisory Panel
CFR	Code of Federal Regulations
CR	Condition Report
DG	Diesel Generator
DHR	Decay Heat Removal
DOC	Decommissioning Operations Contractor
ENS	Emergency Notification System
EP	Emergency Preparedness
HRA	High Radiation Area
IFI	Inspection Follow-Up Item
IP	Inspection Procedure
IT	Information Technology
LIV	Loop Isolation Valve
MYAPS	Maine Yankee Atomic Power Station

NRC	Nuclear Regulatory Commission
PAB	Primary Auxiliary Building
PWST	Primary Water Storage Tank
QA	Quality Assurance
RP&C	Radiological Protection and Chemistry
RWP	Radiation Work Permit
SFP	Spent Fuel Pool
SFPI	Spent Fuel Pool Island
SLC	Station Line Carrier
the Plan	NRC-approved physical security plan
TS	Technical Specification
UPS	Uninterruptible Power Supply
USACOE	US Army Corps of Engineers
Y2K	Year 2000